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ABSTRACT

Twenty-two books related to the teaching of elementary-level mathematics are listed alphabetically by author in this annotated bibliography. With few exceptions, the books were published between 1976 and 1980. For each citation, information on author, publisher, and availability as well as a brief abstract is provided. A subject index is also included. (LP)

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Elementary School Mathematics:
Annotated Bibliography

Second Annual Update

December 1981

Research and Development Interpretation Service

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SE 04/1 771

Author: Ashlock, Robert B.

Accession Number:

MA 136

Title: Error Patterns in Computation - A Semi-programmed Approach.
Second Edition. Columbus, Ohio: Charles E. Merrill Publishing
Company, 1976. (145 pp.)

Availability:

Charles E. Merrill Publishing Company
1300 Alum Creek Drive
Columbus, Ohio 43216

Abstract:

Designed to help classroom teachers present computation to students, the first chapter of this book reviews the research on children's computational errors, discusses how children learn these errors, and provides guidelines for diagnosing and treating difficulties in elementary school mathematics. Using a simulation format, the remaining chapters require the readers to diagnose and prescribe illustrated error patterns, and then check their analyses with that of the author's. The appendixes contain additional suggestions for improving diagnostic-prescriptive teaching of mathematics in the following areas: the nature of wrong answers; helping children understand our numeration system; addition of unlike fractions; and remedial instruction.

Author: Bartkovich, Kevin G., and George, William C.

Accession Number:

MA 142

Title: Teaching the Gifted and Talented in the Mathematics Classroom.
Washington, D.C.: National Education Association, 1980. (48 pp.)

Availability:

National Education Association
1201 16th Street, N.W.
Washington, D.C. 20036

Abstract:

Selected from successful programs for teaching the mathematically gifted student, this booklet presents methods for screening and identifying mathematics talent, evaluates enrichment approaches from busy work to acceleration, and outlines teaching approaches that include fast pacing, individualized instruction, and tutoring. Other sections discuss implementation models, evaluation processes, teacher selection, textbook selection, and other accelerative options. The names of commonly used in-grade nationally normed first-stage and second-stage screening measures used to identify the mathematically talented are appended and a list of selected references is provided.

Author: Carpenter, Thomas P.; Hiebert, James; and Moser, James M.

Accession Number:

MA 146

Title: The Effect of Problem Structure on First-Graders' Initial Solution Processes for Simple Addition and Subtraction Problems. Technical Report No. 516. Madison, Wisconsin: Wisconsin Research and Development Center, 1979. (74 pp.) ED 180 840

Availability:

ERIC Document Reproduction Service
P.O. Box 190
Arlington, Virginia 22210

Abstract:

Forty-three first-grade children, who had received no formal instruction in addition and subtraction, were individually administered 20 problems that could be solved using addition or subtraction. The problems were selected to represent the following semantic types: joining, separating, part-part-whole, comparison, and equalizing. Responses were coded in terms of appropriateness of strategy, correct or incorrect answer, type of error, mode of representation and solution strategy. For every problem but the two addition comparison problems, over 70% of the subjects chose a correct strategy. There were very few systematic errors. Only 15 of the 860 responses involved the wrong choice of operation. The majority of solutions involved the use of concrete objects, but a significant number used fingers or did not use any physical representation. Contrary to previous analysis of children's solution processes for addition and subtraction problems, these results suggest that children do not transform problems so they can apply a single strategy. Rather, they have a rich repertoire of strategies which they apply directly to a problem based on its semantic structure. The results also suggest that verbal problems may be an appropriate context to introduce addition and subtraction operations.

Author: Davis, Robert B., et al

Accession Number:

MA 135

Title: An Analysis of Mathematics Education in the Union of Soviet Socialist Republics. Columbus, Ohio: ERIC Information Analysis Center for Science, Mathematics, and Environmental Education, 1979. (184 pp.)

Availability:

Information Reference Center (ERIC/IRC)
The Ohio State University
1200 Chambers Road, 3rd Floor
Columbus, Ohio 43212

Also available from:
EDRS: ED 182 141

Abstract:

The current status of mathematics education in the Union of Soviet Socialist Republics is reported. The perceptions of Davis and Romberg reflect their own observations and discussions with Soviet educators. Kantowski and Rachlin give their impressions resulting from reading reports on Soviet research techniques and findings. Davis and Romberg discuss common practices in present Soviet schools, difficulties in language, Soviet mathematics curricula, and mathematics education research and development in the Soviet Union. Rachlin considers Soviet approaches to the study of problem-solving processes in mathematics, while Kantowski gives another view of the value of studying mathematics education research and development in the Soviet Union.

Author: Ernest, John.

Accession Number:
MA 150

Title: Mathematics and Sex. Santa Barbara, California: University of California, 1976. (30 pp.)

Availability:

Mathematics Department
University of California
Santa Barbara, CA 93106

Abstract:

Based on the results of a sample of 1324 questionnaires distributed among grades 2 through 12, the first section of this study examines the pattern of sex difference in mathematics preference. The second section reports on the attitudes of teachers regarding the teaching of mathematics and student performance. Section three considers sex differences in the extent of mathematical training in the high schools and identifies inadequate mathematics training for women as the reason for a lack of scientific and technological opportunities for women. The final sections of the report examine instruction at the university level, discuss sex differences in the mathematics profession, and conclude with observations and recommendations for bringing about a sexually unbiased social and intellectual environment. References are appended.

Author: Feuerstein, Reuven

Accession Number:
MA 155

Title: Instrumental Enrichment: An Intervention Program for Cognitive Modifiability. Baltimore, Maryland: University Park Press, 1980.

Availability:

University Park Press
233 East Redwood Street
Baltimore, MD 21202

Abstract:

The contents of this book revolve around a strategy for the cognitive redevelopment of retarded performing adolescents called the Feuerstein Instrumental Enrichment program (FIE). Assuming that retarded performance often occurs because the child has not been taught to focus on significant events and ideas in the environment, FIE provides a step-by-step mediated learning experience to directly modify the child's cognitive abilities. Based on two decades of research with tens of thousands of low-functioning adolescents, the book covers the theoretical basis and rationale for cognitive modifiability, describes the FIE program and strategies, identifies the populations for which it is designed, discusses teacher training and supervision, and suggests ways to bridge FIE with other curricula. The characteristics of the Feuerstein Instrumental Enrichment Program are appended.

Author: Floden, Robert E., et al

Accession Number:

MA 139

Title: Don't They All Measure the Same Thing? Consequences of Selecting Standardized Tests. Research Series Report No. 25. East Lansing, Michigan: Institute for Research on Teaching, 1978. (21 pp.)

Availability:

Institute for Research on Teaching
College of Education
Michigan State University
252 Erickson Hall
East Lansing, Michigan 48824

Also available from
EDRS: ED 167 632

Abstract:

The authors argue that personnel who select standardized achievement tests have been led to believe that the major achievement test batteries differ very little in terms of the topics they test; but that the content covered by these major tests is different, and that such differences have consequences for instructional content. To test this argument, four fourth grade mathematics achievement tests were examined: the Stanford Achievement Test (SAT), Iowa Tests of Basic Skills (ITBS), Metropolitan Achievement Tests (MAT), and the Comprehensive Tests of Basic Skills (CTBS). Test content was compared to topics which a teacher might cover. In the "operations" category, the tests corresponded quite closely in the percentages of items involving certain adding, subtraction, and division tasks. However, important differences were found in other categories and the number of items covering addition, grouping, alternative number systems, and percentages varied considerably between tests. Evidence of high internal consistency or test reliability does not rule out the effects of item-treatment-interactions. It is suggested that the problem of teachers teaching only the content covered by the test is not as great as might be thought. The authors recommend that tests be selected consistently and that their content be valid for the curriculum content.

Author: Herold, Persis Joan

Accession Number:

MA 144

Title: The Math Teaching Handbook. Newton, Massachusetts: Selective Educational Equipment, Inc., 1978. (173 pp.)

Availability:

Selective Educational Equipment, Inc.
3 Bridge Street
Newton, Massachusetts 02195

Abstract:

Written for persons with no background in mathematics, this book discusses reasons children fail in mathematics, emphasizes the diagnosis and assessment of individual needs in terms of unique learning style and experience, and presents a variety of materials and strategies for problem areas in mathematics learning. Sections of the book outline teaching techniques, illustrate and describe concrete aids for instruction, and suggest homemade and commercial learning games. A tutor's reference and review section offers 24 review exercises with answers and a number of shortcuts in arithmetic. Appendixes provide the following: a typical mathematics course description; a sequence of skills in mathematics; suggestions for informal diagnostic testing; the triangle method; records of tables for duplication; a glossary and annotated bibliography; and a publishers' list.

Author: Kuhs, Therese M., and Freeman, Donald J.

Accession Number:

MA 140

Title: The Potential Influence of Textbooks on Teachers' Selection of Content for Elementary School Mathematics. Institute for Research on Teaching, Research Series Report No. 48. Arlington, Virginia: ERIC Document Reproduction Service, 1979. (40 pp.) ED 175 856

Availability:

ERIC Document Reproduction Service
P. O. Box 190
Arlington, Virginia 22210

Abstract:

The research reported in this paper identifies the "core curriculum" and "optional curriculum" suggested by widely used textbooks of elementary school mathematics and describes the influence of each on teacher autonomy in selecting the content of instruction. Preliminary analyses suggest that the "core curriculum" is generally consistent with recent educational trends, while the freedom of choice suggested by the "optional curriculum" seems to demand a high level of mathematics expertise on the part of teachers.

Author: Riley, Christine A. et al

Accession Number:
MA 147

Title: The Quantitative Basis of Children's Number Concepts. Paper presented at the Society for Research in Child Development Meeting. Arlington, Virginia: ERIC Document Reproduction Service, 1977. (15 pp.) ED 138 348

Availability:

ERIC Document Reproduction Service
P. O. Box 190
Arlington, Virginia 22210

Abstract:

The purpose of this study was to examine how children represent and compare number symbols. Pre-school, kindergarten, first, third, and fifth grade children and college students judged which of two visually presented digits was numerically larger. Twelve individuals were tested at each grade level. Response latencies were collected. Children at all levels were successful on the task. Results indicated that response latencies were a function of the ratio of the digit sizes; the larger the ratio, the faster the decision could be made. The children's performance demonstrated that: (1) they know the ordered sequence of the digits (the basis of the ordinal property of number); and (2) that numbers later in the sequence represent a greater quantity. This understanding of the quantitative basis of number is present even at an age when children do not understand the cardinal property of number symbols. It is argued that the ordinal number property and the understanding of the quantitative dimension which numbers represent form the psychological basis of the number concept. The results are discussed in terms of their relevance for early mathematics education.

Author: Shumway, Richard J., ed.

Accession Number:

MA 149

Title: Research in Mathematics Education. Reston, Virginia: The National Council of Teachers of Mathematics, Inc., 1980. (487 pp.)

Availability:

The National Council of Teachers of Mathematics, Inc.
1906 Association Drive
Reston, VA 22091

Abstract:

Intended as a definitive reference work on research in mathematics education, this volume contains these two sections: the research process, which focuses on problems of research methods and their relevance to research in mathematics education; and research problems, which deals with the identification of critical, productive trends, issues, and hypotheses that are important, timely, and promising. The topics discussed in individual papers include avoiding errors in educational research, cognitive development, skill learning, concept and principle learning, and mathematics attitude. Four research case studies are also included.

Author: Siegel, Linda S. and Brainerd, Charles J.,
editors

Accession Number:

MA 138

Title: Alternatives to Piaget: Critical Essays on the Theory. New York:
Academic Press, 1978. (262 pp.)

Availability:

Academic Press
111 Fifth Avenue
New York, New York 10003

Abstract:

Designed to stimulate critical reassessment of Piagetian theory, these essays develop one of three themes: the performance-competence problem and its implications; the role of learning in cognitive development; and consideration of theoretical viewpoints other than Piaget's. The nine essays discuss the following topics: learning to find things or a reinterpretation of object permanence studies; Piaget's view of social interaction and the theoretical construct of empathy; the relationship of language and thought in the preoperational child considered through nonverbal alternatives to Piagetian tasks; learning research and Piagetian theory; a perceptual-salience account of decalage relations and developmental change; language and thought in Piagetian theory; the necessity of logical necessity in Piaget's theory; a critical analysis of Piaget's theory and early childhood education; and conceptualization of children's logical competence considered in Piaget's propositional logic and an alternative proposal.

Author: Siegler, Robert S., ed.

Accession Number:

MA 137

Title: Children's Thinking: What Develops? Hillsdale, New Jersey:
Lawrence Erlbaum Associates, Inc., 1978. (371 pp.)

Availability:

Lawrence Erlbaum Associates, Inc. Publishers
62 Maria Drive
Hillsdale, New Jersey 07642

Abstract:

Arranged according to the categories of memory development, development of problem solving skills, and development of representational processes, the chapters in this book discuss the following topics related to children's thinking processes: problem-solving and metacognition; a neo-Piagetian interpretation of intellectual development; knowledge structures; origins of scientific reasoning; how children solve class-inclusion problems; goal formation, planning, and learning by preschoolers; counting in the preschoolers; how children represent knowledge of their world in and out of language; spatial concepts, spatial names, and the development of exocentric representations; a teleological approach to imagery and cognitive development; and individual differences in solving physics problems.

Author: Sowder, Larry

Accession Number:

MA 148

Title: Discovery Learning: A Status Study, Grades 4-7, and an Examination of the Influence of Verbalizing Mode on Retention. Report from the Project on Analysis of Mathematics Instruction, Wisconsin University, Madison, Research and Development Center for Cognitive Learning. Arlington, Virginia: ERIC Document Reproduction Service, 1969. (154 pp.) ED 035 593

Availability:

ERIC Document Reproduction Service
P. O. Box 190
Arlington, Virginia 22210

Abstract:

A study had two aims: to explore the ability of pupils of grades 4-7 to give operational evidence of generalizing in selected numerical situations, and to study the effects of differing manners of verbalizing a generalization on the retention of the ability to use the generalizations. Pupils (18) from each of grades 4-7 in a public school were randomly chosen and given an individually administered discovery test consisting of the stimulus portions of instances of generalizations. For the exploratory part of the study, the number of instances required before the pupil gave correct responses, as well as the number of generalizations apparently formed, were recorded and analyzed by a grade-by-IQ level-by-sex analysis of variance and with respect to a linear model with independent variables age, IQ, arithmetic achievement, and mathematical interests. Performance on a follow-up test (one week later) based on instances of the generalizations on the discovery test was to provide information for the influence-of-verbalizing study. Indications are that most pupils can form generalizations of the type encountered, although pupils of lower IQ require more instances. With the number of instances needed as a criterion, the optimal grade level at which to offer generalizing tasks appear to be grade 6 or after. The plateau at grade 6 supports Piagetian thought, although it may be due to a plateau on computational proficiency. Instruments and bibliography are included.

Author: Steffe, Leslie P.

Accession Number:

MA 141

Title: Quantitative Comparisons and Class Inclusion as Readiness Variables for Learning First Grade Arithmetical Content.
Florida State University, Tallahassee, Project for the Mathematical Development of Children, Technical Report No. 9.
Arlington, Virginia: ERIC Document Reproduction Service, 1976. (289 pp.) ED 144 808

Availability:

ERIC Document Reproduction Service
P. O. Box 190
Arlington, Virginia 22210

Abstract:

This report presents the results of a teaching experiment which investigated (1) the role of mathematical experiences on the development of counting, addition, subtraction, mental arithmetic, classification, and other arithmetical topics and (2) the role of quantitative comparisons and class inclusion as readiness variables for learning the content in (1). The readiness and achievement variables are discussed in detail and tasks are described carefully. Forty-eight first graders were tested and interviewed, with each of the three interviews videotaped. Data were extracted from the tapes and coded. Twenty-four pupils were given instruction on the concepts for 12 weeks. Multivariate analysis of variance, univariate analysis of variance and discriminant functions as necessary, and correlation matrices were used. Results are presented and discussed in detail.

Author: Steffe, Leslie P. and Thompson, Patrick W.

Accession Number:

MA 145

Title: Children's Counting in Arithmetical Problem Solving. Paper presented at the Wingspread Conference on Initial Learning of Addition and Subtraction. Racine, Wisconsin, 1979. NSF Final Grant Report, University of Georgia.

Availability:

University of Georgia
L. Steffe
Atlanta, GA 30602

Abstract:

After defining pertinent terms and describing preliminary studies, this paper discusses 14 analyses involving four children who were point counters, three children who seemed to be between point-counting and counting with units, and seven children who were counters with units. The discussion focuses on conceptions of addition and subtraction, solution procedures, and the relationships between the two. Two characteristics separated the seven counters with units from the other children considered. In at least one arithmetical problem, each child created a goal structure based in a numerical script, prior to solving the problem. While the children showed that they were not far removed from point counting, each of the seven displayed advanced forms of problem construction, understanding, and solution.

Author: Suydan, Marilyn N.

Accession Number:
MA 143

Title: International Calculator Review. Columbus, Ohio: SMEAC Information
Reference Center, 1981. (97 pp.)

Availability:

SMEAC Information Reference Center
The Ohio State University
1200 Chambers Road, Room 310
Columbus, Ohio 43212

Abstract:

Concerned with school use of hand-held calculators in mathematics curriculum, the Second International Mathematics Study formed a working group to assess the following: trends, prediction, and prevailing opinions about curricular implications of calculators; research activities with calculators; instructional practices; student outcomes, attitudes, and concerns; in-service activities for teachers; and general background on amount of use, type of use; projects, etc. This paper contains the assessment reports from 16 countries, presents a synthesis of the national reports, and provides the comments and additional information offered by the working group after the reports were analyzed. A bibliography of 150 items, representative of the scope of materials being published on hand-held calculators, is appended.

Author: Tobias, Sheila

Accession Number:

MA 134

Title: Overcoming Math Anxiety. New York: W.W. Norton and Company, Inc., 1978. (278 pp.)

Availability:

W. W. Norton and Company, Inc.
500 Fifth Avenue
New York, New York 10036

Abstract:

Written to convince both men and women that a fear of mathematics is the result of a negative experience with the subject, this book discusses the intimidation and defeat that comes from poor teaching, murky texts, and myths in mathematics education. The initial chapters explore the nature of math anxiety, sex roles, and mathematics competence, and problems with spatial visualization. Sections on fractions, averages, mathematical notation, and the calculus present practical approaches to learning mathematics. The final chapter, "Overcoming Math Anxiety," considers techniques that include group desensitization, group process, diagnosis, and immersion. A composite of a confidence and anxiety rating scale and a list of programs for math anxious people is appended.

Author: Tuma, David T., and Reif, Frederick, eds.

Accession Number:
MA 154

Title: Problem Solving and Education: Issues in Teaching and Research.
Hillsdale, New Jersey: Lawrence Erlbaum Associates, 1980. (212 pp.)

Availability:

Lawrence Erlbaum Associates, Inc. Publishers
365 Broadway
Hillsdale, NJ 07642

Abstract:

The papers in this volume discuss basic research on problem solving and its relevance to education and present practical attempts to teach students improved problem-solving skills. The topics discussed include the following: problem solving and educational policy; trends in the theory of knowledge for problem solving; bridging the gaps with human cognitive engineering; developing a computational representation for problem-solving skills; teaching problem solving in physics; prescriptive and descriptive approaches to problem solving; teaching problem-solving mechanisms; and recapitulation from the viewpoint of a teacher. Appendixes list conference contributors and conference participants and present a selected bibliography.

Author: Yardley, Alice

Accession Number:

MA 151

Title: Structure in Early Learning. New York: Citation Press, 1974.
(116 pp.)

Availability:

Citation Press
50 West 44th Street
New York, NY 10036

Abstract:

Referring specifically to the experiences of children during their first years in school, this book defines basic principles regarding conceptual development and considers realistic modes of assessing and recording the child's progress. Sections of the book consider the following: the need for structure; applying developmental knowledge; learning through discovery; the development of movement; developmental drama; communication concepts; grasping mathematical ideas; learning to socialize; the maturing emotions; growth of creativity; the growing spirit; keeping and using records; parents involvement as part of the plan; and developing the uses of language. An appendix provides suggestions for further reading.

Author: Yardley, Alice

Accession Number:

MA 153

Title: The Teacher of Young Children. New York: Citation Press, 1971.
(112 pp.)

Availability:

Citation Press
50 West 44th Street
New York, NY 10036

Abstract:

Citing examples from the work of practicing teachers, this book focuses on these roles of the teacher: in the class, as an organizer, as a member of a staff team; in society, as a leader; and as a learner. In addition, other chapters discuss research and the role of the teacher, clarifying the image and personality of the teacher, considering the teacher's authority, and outlining the partnership between parents and teachers. The book provides a bibliography for the teacher's library that includes research studies on the role of the teacher.

Author: Yardley, Alice

Accession Number:
MA 152

Title: Young Children Thinking. New York: Citation Press, 1973. (143 pp.)

Availability:

Citation Press
50 West 44th Street
New York, NY 10036

Abstract:

This book provides simple practical suggestions for adding intellectual dimensions to classroom curriculum through an examination of existing structures, a reorientation of the events of the school day, and the use of existing activities in ways that stimulate greater thinking activities on the part of the student. Chapters discuss the following topics: facts about mental development; the period of time before starting school; involvement in social education; organization as a thinking activity; movement and mental activity; a thinking approach to literacy; a thinking approach to numeracy; the challenge of primitive materials; use of topics and themes; the child's view of the abstract world; on becoming a person; imagination; and the child as an artist. An appendix provides suggestions for further reading.

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(for original 1979 Bibliography, 1980 Update, and 1981 Update)

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2. Aiken, L.R., Jr. "Update on Attitudes and Other Affective Variables in Learning Mathematics"
3. Robinson, M.L. Attitudes and Achievement: A Complex Relationship
4. Suydam, M.N. and Weaver, J.F. "Attitudes and Interests"
5. Tobias, Sheila Overcoming Math Anxiety

B. Calculators

1. Bell, M., Esty, E., Payne, J.N., and Suydam, M. "Hand-Held Calculators: Past Present and Future"
2. National Council of Teachers of Mathematics "Minicalculators"
3. National Institute of Education, and National Science Foundation Report of the Conference on Needed Research and Development on Hand-held Calculators in School Mathematics
4. Suydam, M.N. Calculators: A Categorized Compilation of References
5. Suydam, M.N. International Calculator Review

C. Concepts in Elementary School Mathematics

1. Behr, M. and others How Children View Equality Sentences

2. Brainerd, C.K. "Analysis and Synthesis of Research on Children's Ordinal and Cardinal Number Concepts"
3. Carpenter, T.P. and Osborne, A.R. "Needed Research on Teaching and Learning Measure"
4. Lesh, R.A. and Bradbard, D.A. Number and Measurements: Papers From a Research Workshop
5. Martin, J. Larry, Ed., Bradbard, David A., Technical Ed. "Space and Geometry"
6. National Council of Teachers of Mathematics Measurement in School Mathematics
7. Payne, J.N. "Review of Research on Fractions"
8. Riley, Christine A., et al. The Quantitative Basis of Children's Number Concepts
9. Sharron, S. and R. Reys (Eds.) Applications in School Mathematics
10. Steffe, Leslie P. Quantitative Comparisons and Class Inclusion as Readiness Variables for Learning First Grade Arithmetical Content
11. Suydam, M.N. and Weaver, J.F. "Addition and Subtraction with Whole Numbers"
12. Suydam, M.N. and Weaver, J.F. "Geometry and Other Mathematical Topics"
13. Suydam, M.N. and Weaver, J.F. "Multiplication and Division with Whole Numbers"
14. Suydan, M.N. and Weaver, J.F. "Rational Numbers: Fractions and Decimals In Using Research: A Key to Elementary School Mathematics"

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Metric Education

2. Begle, E.C.

"Curriculum Research in Mathematics"

3. Far West Laboratory for Educational Research & Development

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4. Kuhs, Therese M. and Freeman, Donald J.

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5. Lachat, Mary Ann; Capasso, Ronald; and Bartinique, Ingrid

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8. Trueblood, C.K. and Jansson, L.C.

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1. Beilin, H. "The Training and Acquisition of Logical Operations"
2. Carpenter, T.P. "Analysis and Synthesis of Existing Research on Measurement"
3. Copeland, R.W. How Children Learn Mathematics: Teaching Implications of Piaget's Research
4. Fennema, E. "Models and Mathematics"
5. Gelman, R. and C.R. Gallistel The Child's Understanding of Number
6. Krutetski', V.A. The Psychology of Mathematical Abilities in School Children
7. Lovell, K. "Intellectual Growth and Understanding Mathematics"
8. Roszkopf, M.F., Steffe, L.P., and Taback, S. (Eds.) Piagetian Cognitive-Development Research and Mathematics Education
9. Siegel, Linda S. and Brainerd, Charles J. Alternatives to Piaget: Critical Essays on the Theory
10. Steffe, L.P., and Hirstein, J.J. "Children's Thinking in Measurement Situations"
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12. Van Engen, H. "Epistemology, Research and Instruction"
13. Walker, A.A. The Development of Semantic Components of Number
14. Wittrock, M.C. The Research in Cognition Applied to Mathematics Learning

G. Diagnosis and Remediation

1. Ashlock, Robert B. Error Patterns in Computation--A Semi-Programmed Approach
2. Brant, V., and Cox, G., DeVenney, W.S., Hoffman, R.I., Johnitz, W.F., Mendelsohn, M., Scott, J.L., Sharron, S., and Strobel, L.R. "Promising Programs and Practices"
3. Borrows, J.K. A Review of the Literature on Computational Error with Whole Numbers
4. Graeber, Anna O. and Baxter, Katherine B. "Math Diagnosis and Prescription Literature Search"
5. Herold, Persis Joan The Math Teaching Handbook
6. Higgins, Jon L. and Heddens, James W., Eds. Remedial Mathematics: Diagnostic and Prescriptive Approaches
7. Johnson S.W. Arithmetic & Learning Disabilities: Guidelines for Identification and Remediation
8. National Council of Teachers of Mathematics The Slow Learner
9. Pikaart, L. and Wilson, J.W. "The Research Literature"

H. Early Childhood

1. Campbell, Patricia F. Literature Review: Research on Children's Comprehension of Pictures
2. Junge, C.W., Campbell, P., and Denmark, T. Mathematics for Young Children: A Summary of Research and Related Literature
3. Payne, J.N. (Ed.) Mathematics Learning in Early Childhood
4. Siegler, Robert S. (Ed.) Children's Thinking: What Develops?

- | | |
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| 5. Steffe, L. (Ed.) | <u>Research on Mathematical Thinking of Young Children</u> |
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I. General Research Synthesis in Elementary School Mathematics

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| 1. Ashlock, R.B. and Herman, W.L., Jr. | <u>Current Research in Elementary School Mathematics</u> |
| 2. Begle, E.G. | <u>Critical Variables in Mathematics Education: Findings from a Survey of the Empirical Literature</u> |
| 3. Callahan, L.G. and Glennon, V.J. | <u>Elementary School Mathematics: A Guide to Current Research (4th Ed.)</u> |
| 4. Davis, Robert B., et al. | <u>An Analysis of Mathematics Education in the Union of Soviet Socialist Republics</u> |
| 5. Downes, J.P. et al | <u>76 Questions: A Synthesis of the Research on Teaching & Learning Mathematics</u> |
| 6. Easley, J.A., Jr. | <u>On Clinical Studies in Mathematics Education</u> |
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| 8. Howson, A.G. (Ed.) | <u>Developments in Mathematical Education</u> |
| 9. Kilpatrick, J., and Suydam, M.N. | <u>Report on Mathematics Education Literature, 1969-1973</u> |

10. Pikaart, Len, and Others

Bibliography of Research
Studies in Elementary School
and Pre-School Mathematics

11. Riedesel, C.A. and Pikaart, L.

"Recent Research Contributions to Elementary School Mathematics"

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